

# Getting Ready For CAFO Regs

*EPA's new animal feeding regulations take effect February 2006, and smaller operations will need to be just as prepared as large ones.*

Story by  
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Since the Environmental Protection Agency's (EPA's) new concentrated animal feeding operations (CAFOs) rules were published in the *Federal Register* in February 2003, there's been a fair amount of industry buzz about the impending regulations. But as the February 2006 deadline for compliance to the new law draws closer, producers will need to move from talk to action to make certain their operations have practices and permits in place that comply with the new rules.

"2006 is not that far away," points out Bridget Johnson, a North

Dakota State University (NDSU) livestock nutrient management specialist at the Dickinson Research Extension Center. "We are encouraging producers to start now because it can sometimes take two or three years to make feeding facility changes and get a permit," Johnson says, and adds that some cost-share funds are available now that may not be down the road.

#### What the law requires

The revised CAFO rules, which were adopted in an effort to continue to meet goals of the Clean Water Act, require that any animal feeding operation (AFO) — regardless of size — that discharges waste into lakes or streams in the United States needs to

obtain a National Pollutant Discharge Elimination System (NPDES) permit. To qualify for that permit, producers will need to have a nutrient management plan with detailed records outlining manure storage and disposal, as well as other management practices in place that help protect waterways.

Johnson explains that any beef operation with more than 1,000 head is classified as a CAFO and is required to have the NPDES permit. Existing CAFOs have had to comply with the new regulations since shortly after the regulations were published. Smaller operations that directly discharge waste into surface waters will now be required to have the permits as well.

"Many of the producers I'm working with are the smaller, 300- to 900-head feeders and producers who, prior to these new regulations, weren't required to have a permit," Johnson says.

To determine if your livestock operation will be affected by the new federal rules — or state regulations that are also becoming stringent — Johnson and Ron Wiederholt, a livestock waste management specialist at the Carrington (N.D.) Research Extension Center, offer these guidelines for producers:

**First, determine if your operation meets the AFO classification.** AFOs are defined as a "lot or facility where animals have been, are or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period and where crops, vegetation and forage growth or postharvest residues are not sustained over any portion of the lot or facility in the normal growing season."

Johnson says with that definition, some producers can work around being categorized as an AFO. "If you are feeding on rangeland or crop stubble, or if your pens are large enough to grow a crop on during part of the year, you would not be considered an AFO at all and

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## Fine-tuned management

With a 1,200-pound (lb.) cow producing an average of 15 tons of manure annually, feeding management and waste management are critical to minimize nutrient losses and costs and to maximize potential.

"Ultimately, we want inputs and outputs pretty well matched so we have a balance of nutrients in the system," says North Dakota State University (NDSU) livestock nutrient management specialist Bridget Johnson. This means not overfeeding animals and not overapplying manure to crop and hayland.

Johnson offers these tips to minimize nutrient losses:

**1) Feed balanced rations.** "If you're not testing your feed, you don't know what nutrients you are putting into those livestock," Johnson says. "You could be overfeeding and costing yourself money, as well as wasting those nutrients." She suggests having a feed analysis conducted, especially on silage and haylage.

Johnson also points out that not all protein sources are equal because some aren't as completely digestible as others. Without a balanced ration, she says, this can again be a nutrient that is overfed — which creates extra nitrogen waste and costs extra money.

As a solution, Johnson suggests phase-feeding to match the ration to the animals' needs as they change during the growing or finishing period.

Bottom line, Johnson says, "Studies have shown that proper nutrition can reduce nitrogen inputs 10% to 20%, reduce nitrogen excretion 12% to 21% and reduce nitrogen volatilization by 15% to 33%."

**2) Practice good bunk management.** "Learn to read bunks and manage them accordingly. The goal is to have the last feed consumed when the next feeding is delivered, not to be up and down with feed delivery," Johnson says. "This is important because the

amount of feed that gets wasted decreases feed efficiency and increases the amount of solid waste."

**3) Test water sources.** "Water can have a huge effect on animal performance," Johnson says. Thus, she advises producers to get a water analysis for total dissolved solids (TDS) and minerals.

**4) Monitor lot condition.** Muddy lots not only contribute to runoff concerns, but can also reduce animal performance. Johnson suggests correcting the slope of lots or feeding areas to assist drainage, cleaning lots more frequently and providing bedding like straw to capture more nutrients. She reports that research has shown that scraping lots monthly and composting manure reduced nitrogen loss to the environment by 7.9 lb. per head.

Ron Wiederholt, an NDSU livestock waste management specialist, offers these strategies to minimize nutrient losses when applying manure to cropland:

**1) Conduct soil tests and manure analysis for nitrogen, phosphorus, potassium, etc.** "You don't want to be guessing what you are putting out there," Wiederholt says. Overapplying may "burn" the crop or increase the risk of nutrient runoff; underapplying may result in crop failure.

**2) Know crop needs.** Different crops have different nitrogen needs, Wiederholt explains. Once a producer knows crop nutrient requirements along with nutrient levels in the soil and manure, a proper application rate can be determined.

**3) Proper timing is as important as proper application rates.** Fall manure applications are usually preferred over spring because it gives more time for organic nutrients to be mineralized into inorganic forms that can be used by the plant.

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would not have to meet the new rules,” Johnson says.

If, however, you do meet the AFO definition, you need to determine if your operation is classified as small, medium or large.

Any beef operation with more than 1,000 head — calves, feeders or cows — is a

CAFO and is required to have a permit.

Beef operations with 300 to 999 head are classified as medium AFOs and need a permit if the facility is within one-fourth mile of surface water or if the facility is affecting waters of the state (any creek, river or stream that flows into a larger body of water).

The last category is small beef operations with less than 300 head. These

operations would need a permit if they were found to be a significant contributor of pollutants to waters of the state.

Based on these designations, Johnson says, “Making some management changes may help change your designation, or if you are not dealing with slope or drainage that would take it to surface or groundwater, you may be able to demonstrate that your operation has ‘no

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— Ron Wiederholt

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potential’ to discharge and will not be required to have the permit.” That’s why it is important to look into what’s required of these rules and see what you can do, she adds.

**Second, establish a team of local experts to work with you.** As you work toward getting ready for the CAFO rules, Johnson and Wiederholt recommend that producers develop relationships with relevant groups, like Extension, the Natural Resources Conservation Service (NRCS), your state cattlemen’s association and state department of agriculture.

“These partners can offer coordination of resources, and they have knowledge of the state and federal animal feeding regulations,” Johnson says. “Extension is nonregulatory. Our goal is to tell producers what the law is and help them so they can avoid regulatory issues.”

## Federal genebank releases

The National Center for Genetic Resources Preservation recently released animal germplasm from its collection for the first time, to researchers with the University of Missouri-Columbia (MU).

The Fort Collins, Colo., center is run by the Agricultural Research Service (ARS), the U.S. Department of Agriculture’s (USDA’s) chief scientific research agency. The MU scientists received semen samples from three Holstein bulls. The researchers are trying to identify genes associated with milk production.

Although Congress mandated in 1990 that the National Animal Germplasm Program become part of the Fort Collins center, the program did not receive its first animal germplasm samples until 2000, when 40 lines of chicken germplasm arrived. Since that time, geneticist and center coordinator Harvey Blackburn has collected germplasm from many varieties of chickens, cattle, swine, sheep, goats and farmed fish such as catfish and rainbow trout.

Last year, Blackburn collected

Wiederholt adds, "We're not there to look for problems. We are there to work with producers and serve as a go-between among producers and the state department of health, which is the regulatory agency."

Producers who do work with local resources may also find cost-share funds available to help them implement regulatory requirements. For instance, the Environmental Quality Incentives Program (EQIP), offered through NRCS, can provide up to 60%-85% cost-share for qualifying producers to help them make management or facility changes that benefit the environment. EPA-319 funds may also be available to producers through local conservation districts, state cattle organizations and other stewardship groups.

**Third, consider implementing a nutrient management plan — even if it's not required.** For those AFOs that are required to obtain an NPDES permit from the state, they will need to have detailed recordkeeping and nutrient management plans outlining things like their operation's manure storage, manure land application rates and any discharges during the past year. NRCS and Extension can help in putting a plan together.

"Essentially, a nutrient management plan is documentation of management practices that are implemented to control the flow of excessive nutrients [nitrogen (N), phosphorus (P) and potassium (K)] in order to protect surface and groundwater quality," Johnson says.

"Many producers already do these

things, so even if your livestock operation isn't required to obtain a permit, developing a nutrient management plan may still be in your best interest. It is something livestock operations are needing more and more, and if someone complains, you have a documentation of what you've done," she says.

Additionally, Johnson and Wiederholt suggest that a nutrient management plan

may help improve the production efficiency and profitability of your operation.

"The perception is that nutrient management is necessary because of regulation, but these are things that also enhance production ag — not just get you in compliance," Wiederholt says.

"Nutrient management isn't going to go away. Producers need to be proactive

about it and see it as an opportunity to enhance production efficiency, profitability and environmental stewardship."

For more information visit the Livestock and Poultry Environmental Stewardship (LPES) Web site at [www.lpes.org](http://www.lpes.org) and click on CAFO Fact Sheets.



## first animal germplasm

enough semen and embryos from Holstein cattle to reintroduce the breed in the United States if that should ever become necessary. The center preserves semen from 850 bulls and 150 embryos from 25 cows representing the diversity of the Holstein breed.

The center itself opened in 1958 as a long-term seed-storage facility. The collection now includes more than 450,000 seed types. The main objective of both the plant and animal sections is to serve as an "insurance policy" in case different varieties of plants or animals are one day confronted with genetic diversity problems.

In addition to storing plant germplasm, the center staff distribute it to researchers around the world.

The Fort Collins center is the only USDA lab that preserves animal germplasm.



**Editor's Note:** This article was written by David Elstein of the ARS News Service, which supplied this item.